

Working on ATLAS as a Student and Postdoc

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US-ATLAS Education and Outreach

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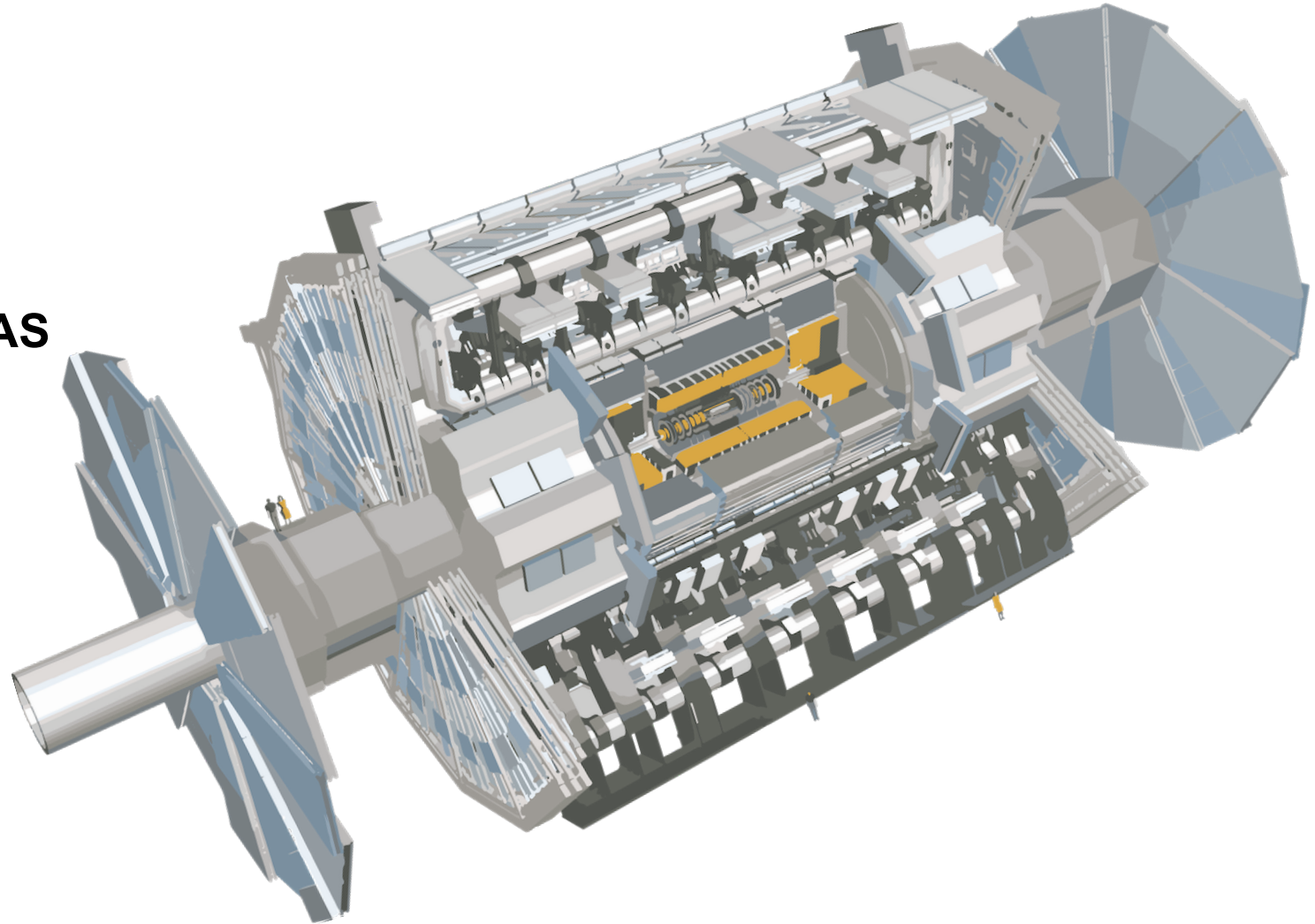
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My Background

Early education



First year Physics lab – University of Zambia



- Pursued all my studies up to undergraduate level in Zambia – my country of origin
- I had no idea what my postgraduate career path was going to be
- To the best of my knowledge, Physics outreach events were non-existent
- Was blind to the many opportunities available to Physics graduates

ASP 2010 – Stellenbosch, South Africa



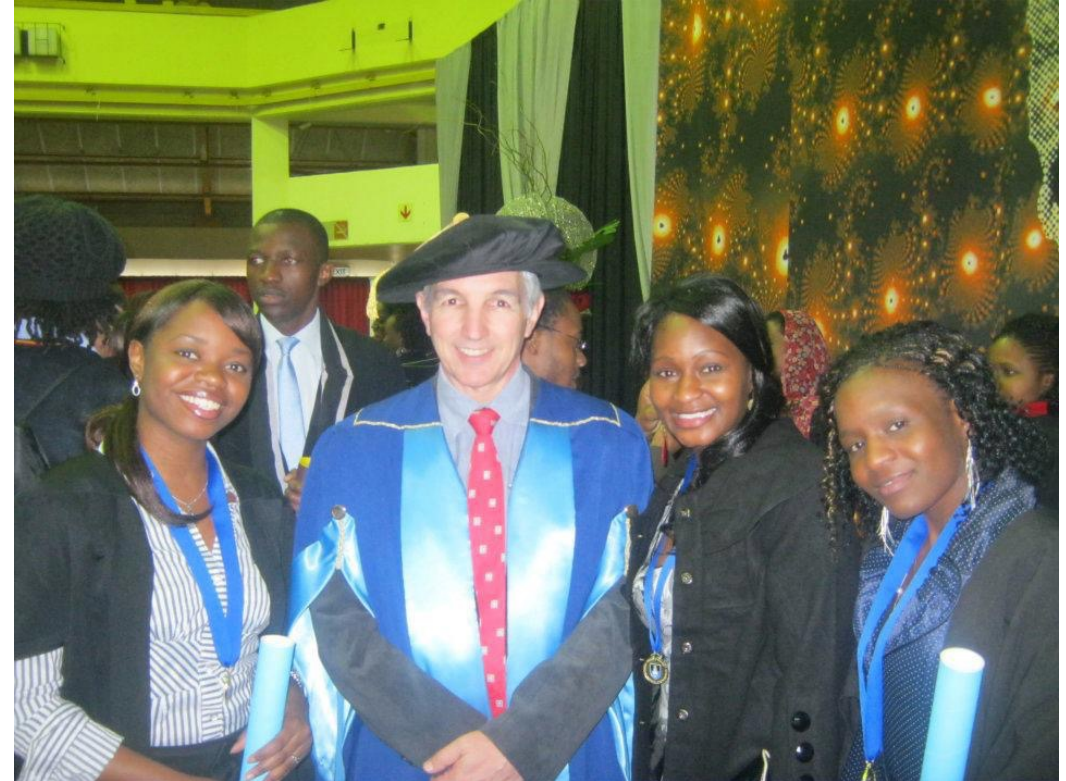
- Final year undergrad - got the opportunity to participate in the African School of Physics ([ASP](#))
- Held every 2 years in various countries around Africa
- Learned about particle physics and CERN for the first time
- Met a lot of people – ASP is still my single biggest network to date

My career path

Bachelor's degree in Physics – University of Zambia (2011)



Postgraduate diploma – AIMS (2012)

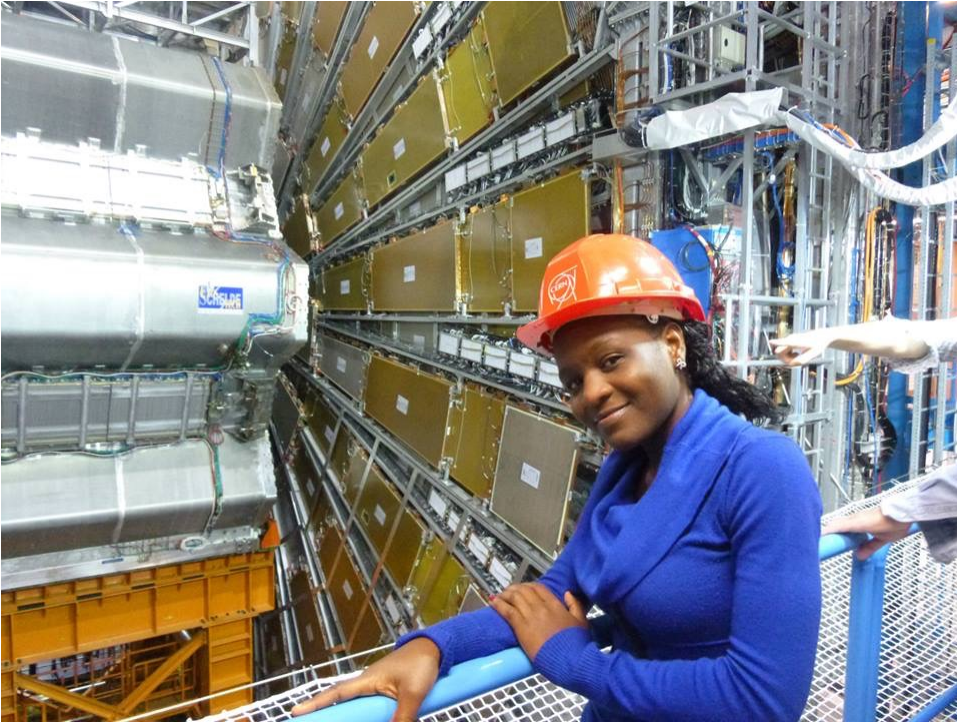


- MSc. Experimental particle physics – University of Cape Town (2014)
- PhD Experimental particle physics – University of Cape Town (2020)
- Postdoc – University of Cape Town (July 2020 – October 2020)
- Postdoc at Brookhaven National Laboratory (November 2020 to date)

Opportunities at CERN and ATLAS

CERN summer student program

ATLAS cavern - 2013



ALICE cavern - 2013



- Every summer, CERN hosts students from all over the world and offers them an opportunity to work with CERN researchers on various aspects of experiments at CERN. ([details here](#))
- Opportunity to learn about all of CERN's facilities; Lectures, tours...also an excellent Networking opportunity!
- You work on a dedicated project supervised by a CERN researcher. Opportunity to acquire new skills!
- My experience was phenomenal! I would wish everyone to experience being a part of this program

ATLAS PhD grant



- Prestigious grant awarded to a few PhD candidates working on any aspect of the ATLAS experiment – no restriction on nationality!
- Opportunity to spend at least one year based at CERN – I spent 1.5 years at CERN on this grant
- Opportunity for in-person collaboration with specialists on your team!
- [Deatails here](#)

Conferences/Workshops

International Conference on high energy physics – Seoul 2018



During workshop on Nuclear Physics – Havana 2019



- ATLAS authorship qualifies you to give talks at various conferences or workshops on behalf of ATLAS
- Usually earned in 1st year of PhD by performing some qualification task on any subject related to ATLAS
- Excellent opportunity to communicate your work to large/wide audiences + expand your network
- If you love travelling – unique opportunity to visit new places and learn about other cultures

Working in ATLAS

Detector operations

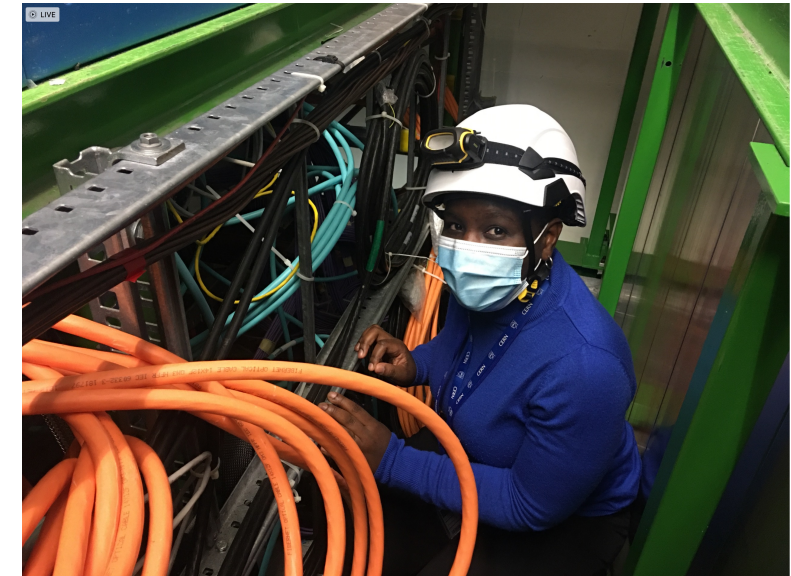
❖ Past

- Software development for some aspect of the ATLAS Muon detector chambers
- Shifter on the ATLAS control room's muon desk – basically monitoring the muon detector chambers to ensure that they are in good operation as ATLAS collects data



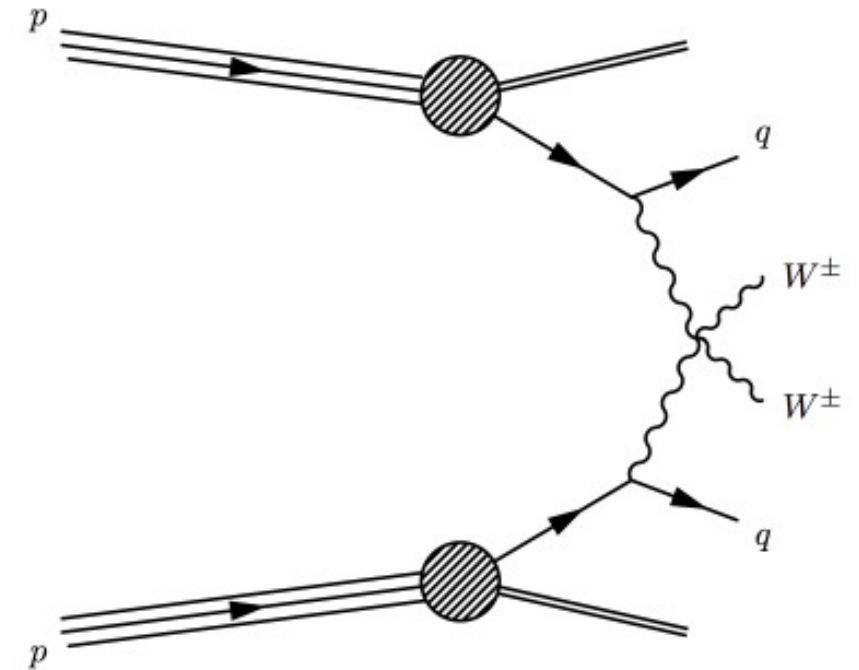
❖ Present

- Software developer for the Liquid Argon calorimeters
- Run coordinator for the Liquid Argon calorimeters – generally oversee all work related to operation of the Liquid Argon calorimeter
- Super-shifter – responsible for the training of shifters on the ATLAS control room's calorimeter desk



Physics analysis

- ATLAS covers a wide range of Physics from the Standard Model to beyond the Standard Model
- Your work usually depends on your institute's interests, but there's a lot of freedom to choose what aspect you want to explore – ***opportunity to diversify your skills***
- You could also be a ***leader*** of an analysis (analysis contact)
- You could also be a member of an editorial board; contribute to the detailed review of an analysis, leading up to publication – ***opportunity to expand your knowledge and leadership skills***
- Currently primarily working on the cross-section measurement for the scattering of two same-sign W bosons
- Serving on an editorial board for one of the Standard Model analyses – ***opportunity to totally go out of my comfort zone*** 😊



Summary

By being a part of the ATLAS collaboration, you benefit from these unique opportunities and much more...

- ✓ Opportunity to work in a world-class research environment
- ✓ Opportunity to work in a large collaboration, with a diverse group of people
- ✓ Opportunity to diversify your skills
- ✓ Opportunity to travel and expand your network

Take advantage of the various opportunities available to you and be a part of this unique collaboration.

Thank you!

Hope to see you in ATLAS!!